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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/553,888

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EXAMINER

BOSWELL, CHRISTOPHER J

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/553,888	Applicant(s) HIBINO ET AL.	
	Examiner CHRISTOPHER BOSWELL	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,7-12,14,16 and 18-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,7-12,14,16 and 18-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

Applicant is advised that should claim 19 be found allowable, claim 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2-3, 7-12, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 4,907,427 to Armstrong.

Armstrong discloses a steering locking device comprising a locking device (22) for automatically locking a steering shaft (12) when a key of an ignition switch (36) is withdrawn in a state in which the key is withdrawable (column 2, lines 5-14), wherein a key mechanism section and the locking device of the ignition switch are provided separately (key mechanisms are inherently disposed within the interior of the cabin of vehicles, whereas the applied locking

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device is located adjacent to the axels), and the locking device is provided at a steering gear section (200) having a rack and pinion mechanism (202 and 204), the rack & pinion mechanism including a pinion shaft (204) connected to the steering shaft and a rack shaft (202) disposed at a midpoint of a tie rod which connects tires on both sides (figures 1 and 19), and the pinion shaft and the rack shaft are adapted to convert a rotational movement from the steering shaft to a linear movement of the tie rod (figures 1 and 19), as in claim 2.

Armstrong also discloses the locking device is provided on a lower side of the rack shaft near a lower end of the pinion shaft of the steering gear section (figure 19), as in claim 7, and the locking device is integrally formed with the rack and pinion mechanism steering gear (figure 19), as in claim 10, as well as the locking device electrically makes a lock pin (pin of element 22) reciprocate based on a key information supplied via a harness connector (column 8, line 62-column 9, line 27), as in claim 18.

Armstrong further discloses a steering locking device comprising a locking device (22) for automatically locking a steering shaft (12) when a key of an ignition switch (36) is withdrawn in a state in which the key is withdrawable (column 2, lines 5-14), wherein a key mechanism section and the locking device of the ignition switch are provided separately (key mechanisms are inherently disposed within the interior of the cabin of vehicles, whereas the applied locking device is located adjacent to the axels), and the locking device is provided about a pinion shaft (12 and 204) of a steering gear section (20 and 200) having a rack and pinion mechanism (202 and 204), the rack & pinion mechanism including a pinion shaft (12 and 204) connected to the steering shaft and a rack shaft (202) disposed at a midpoint of a tie rod which connects tires on

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both sides (figures 1 and 19), and the pinion shaft and the rack shaft are adapted to convert a rotational movement from the steering shaft to a linear movement of the tie rod (figures 1 and 19), as in claim 3.

Armstrong additionally discloses the locking device is provided on a lower side of the rack shaft near a lower end of the pinion shaft of the steering gear section (figures 1 and 19), as in claim 8, and the locking device is integrally formed with the pinion shaft (figures 1 and 19), as in claim 11, as well as the locking device has a key lock collar (52), the key lock collar is formed on the pinion shaft via a ring member (48 and 50), as in claim 12, and where a groove (62 in element 52 formed on the pinion shaft) for a key lock (144) is formed to the pinion shaft, as in claim 16.

Armstrong also discloses a steering locking device comprising a locking device (22) for automatically locking a steering shaft (12) when a key of an ignition switch (36) is withdrawn in a state in which the key is withdrawable (column 2, lines 5-14), wherein a key mechanism section and the locking device of the ignition switch are provided separately (key mechanisms are inherently disposed within the interior of the cabin of vehicles, whereas the applied locking device is located adjacent to the axels), and the locking device is integrally formed with a steering gear section (200) having a rack and pinion mechanism (202 and 204), the rack & pinion mechanism including a pinion shaft (204) connected to the steering shaft and a rack shaft (202) disposed at a midpoint of a tie rod which connects tires on both sides (figures 1 and 19), and the pinion shaft and the rack shaft are adapted to convert a rotational movement from the steering shaft to a linear movement of the tie rod (figures 1 and 19), as in claim 9.

Claims 19-22 and 24-25 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication Number 2003/0160413 to Kinme et al.

Kinme et al. disclose a steering locking device comprising a locking device (6 and 52) for automatically locking a steering shaft (21) when a key of an ignition switch (7) is withdrawn in a state in which the key is withdrawable (paragraph 32), wherein a key mechanism section (7) and the locking device of the ignition switch are provided separately (figure 2), and the locking device is provided on a side of an output shaft (22) of a speed reduction unit (contained within element 8) of a column-type electric power steering apparatus (figure 2), and the speed reduction unit reduces a drive force of a motor (4) and transmits it to the output shaft connected to the steering shaft (via worm gear 51), as in claim 19.

Kinme et al. also disclose the locking device is provided on the output shaft of the speed reduction unit (figure 2), as in claim 20, and where the locking device is provided on a yoke (figures 2 and 4) connected to the output shaft of the speed reduction unit, as in claim 21, and the locking device has a key lock collar (52), the key lock collar is formed on the output shaft via a ring member (52b), as in claim 22, and a groove (52c) for a key lock (6a) is formed to the output shaft, as in claim 24, as well as the locking device electrically makes a lock pin (6a) reciprocate based on a key information supplied via a harness connector (7), as in claim 25.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong, as applied above.

Armstrong discloses the invention substantially as claimed. Armstrong discloses the locking device has a key lock collar (52), the key lock collar is directly fixed to the pinion shaft by screws (60). However, Armstrong does not disclose the lock collar directly affixed to the pinion shaft by a weld. However, Armstrong does disclose the ring member (48 and 50) being welded in facing engagement (column 4, lines 5-16). It would have been obvious to one with ordinary skill in the art at the time the invention was made to weld the two sides of the key collar together in a facing engagement in order to achieve a strong joint without the possibility of fasteners becoming loosened.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kinme et al., as applied above, in view of Armstrong.

Kinme et al. discloses the invention substantially as claimed. Kinme et al. discloses the locking device having a key lock collar (52) that is formed on the output shaft via a ring member (52b), and a groove (52c) on the key lock collar for a key lock (6a). However, Kinme et al. does not disclose how the key collar is fixed to the output shaft. Armstrong teaches of a steering lock

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device (10) having a lock collar (48 and 50) formed about a steering shaft (12), wherein the lock collar is affixed about the steering shaft by welding (column 4, lines 5-16) in the same field of endeavor for the purpose of attaining a strong joint without the possibility of fasteners becoming loosened. It would have been obvious to one with ordinary skill in the art at the time the invention was made to weld the key lock collar of Kinme et al. to the output shaft by welding, as taught by Armstrong, in order to attain a strong joint without the possibility of fasteners becoming loosened.

Response to Arguments

Applicant's arguments with respect to claims 2-3, 7-12, 14, 16, 18-25 have been considered but are moot in view of the new ground(s) of rejection. The new grounds of rejection have been made in view of Armstrong, which discloses a locking device for a steering shaft near a rack and pinion steering mechanism, and in view of Kinme et al., where Kinme et al. discloses a locking device for a steering shaft located adjacent to the output shaft portion of the steering shaft.

Conclusion

Applicant's amendment positively reciting the elements of a rack and pinion steering mechanism necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER BOSWELL whose telephone number is (571)272-7054. The examiner can normally be reached on 9:00 - 4:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Engle can be reached on (571) 272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher Boswell
Examiner
Art Unit 3673

/Patricia L Engle/
Supervisory Patent Examiner, Art Unit
3673

CJB
January 25, 2008